Fisher Labs

M-97

Valve, Pedestal & Box Locator

Operating Manual

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TREASURE HUNTERS' CODE OF ETHICS

- Always check Federal, State, County and local laws before searching.
- Respect private property and do not enter private property without the owner's permission.
- Take care to refill all holes and try not to leave any damage.
- Remove and dispose of any and all trash and litter found.
- Appreciate and protect our inheritance of natural resources, wildlife and private property.
- Act as an ambassador for the hobby, use thoughtfulness, consideration and courtesy at all times.
- Never destroy historical or archaeological treasures.
- All treasure hunters may be judged by the example you set; always conduct yourself with courtesy and consideration of others.

LET'S PRESERVE OUR TREASURED HOBBY

USING HEADPHONES

Using headphones (not supplied) improves battery life, and prevents the sounds from annoying bystanders.
It also allows you to hear subtle changes in the sound more clearly, particularly if searching in a noisy location. For safety reasons, do not use headphones near traffic or where other dangers are present. This device is to be used with interconnecting cables/headphone cables shorter than three meters.

ABOUT YOUR M-97

Using ideas that you, our valued customers, have passed on to us, the M-97 Valve and Box Locator stands as the new and improved addition to our line of highly successful M-95 and M-96 Locators.

The M-97 is an all-metal metal detector that can search through concrete and asphalt and was designed for finding buried or paved over valves, boxes, or manhole covers, or any other concealed metallic object. It also locates targets made of aluminum, brass and lead. Please remember, like all Valve and Box Locators, the M-97 is a Metal Detector which should not be used as a substitute for a Utility Line Tracer. Fisher Research Laboratory manufactures a complete line of equipment for Line Tracing (Pipe and Cable Tracing).

New to the M series is the ease with which the M-97 can be stored. Just compact the lower stem, twist the search coil 90 degrees, and fold the search coil flat. The M-97 fits easily into the optional carrying case.

In the Fisher tradition, the M-97 is affordable, tough, and simple to use while providing maximum performance. A two year limited warranty comes standard with the unit.

FEATURES

- **Two knobs and a pushbutton for simple operation**
- **Adjustable shaft with double locking stem**
- **Ground Effect Rejection VLF eliminates annoying or false signals from wet ground foliage, pavement or mineralized ground**
- **High sensitivity for maximum penetration through soil, asphalt or concrete**
- **Built-in Battery Test**
- **Pushbutton Tuning to quickly & easily maintain optimum sensitivity**
- **Ultra Slow Auto-Tune to stabilize ground tuning and minimize frequency drift**
- **Identifies metallic objects by speaker sound and needle movement**
- **Compact size for convenient storage**
- **Waterproof search coil**

CONTROLS

Meter

The meter of the M-97 serves two purposes for the operation of the instrument. When used in the battery test mode, the meter gives a visual indication of the battery strength. A reading between 80 – 100 is desirable. If the reading is below 80, search depth and accuracy can decrease. Please change the batteries, if necessary. (Note: The batteries must be inserted correctly for the M-97 to operate. Match up the correct battery terminals with the markings on the inside of the battery holder. Failure to do so will not damage the instrument, however, the instrument will not function).

M-97 Control Panel

When searching with the M-97, the meter gives a visual indication to any change occurring in the field of detection. This is primarily due to the coil passing over or near a metal object, but can occur when the ground mineral conditions change.

On/Off Ground Rejection Control

This control turns the M-97 on and off. It is used to electronically balance the M-97 to compensate for the natural mineral content of the soil or ground surface. When tuned properly, raising and lowering the search coil above the ground will not cause a change in the meter reading or audio tone.

Mode Switch

This control is used to change the mode function of the Locator.

Battery Test

With the detector turned on, the Battery Test mode will indicate battery strength. This is a no-load battery test.

Normal

This setting is used for the Turn On and Go mode. The Normal Mode requires very little Ground Rejection adjustment.

High

This setting is used for increasing the sensitivity of the M-97,which also increases the depth searching capabilities of the instrument.

Retune Button

When this button is depressed, the instrument will rebalance itself to the instrument settings and prevailing ground conditions.

SETTING UP

The M-97 comes ready to use.

Extend the lower stem of the M-97 so that the search coil rests between 6 to 12 inches in front of your feet. Your arm should be straight and relaxed with your grip held loosely.
Tighten the locking nut/compression nut at the bottom of the upper stem.

When the proper length is selected, the excess cable should be wound around the stem. This can be done by slightly loosening the locking nut and turning the lower stem, or by removing the search coil and winding the cable by hand. Be sure to leave a some slack in the cable.

Check the batteries by turning the Mode control to Battery Test position and turning the Ground control to any number. A reading between 80 and 100 indicates the batteries are OK.

*With the 11" coil you must slide the lower stem completely out of the upper assembly for the M-97 to properly fit in the hard carrying case.

TUNING THE M-97

There are two methods to tune and balance the M-97. One method is for quick and easy operation; the other will allow you fine tune the detector for deeper searching and greater sensitivity.

Turn On and Go Method

Select an area that is free of metal near and under the search coil. Turn on the M-97 by setting the Mode control to "Normal" and Ground control to the position "5". (Hint: If the M-97 is loudly sounding when the instrument is turned on, press and release the Retune Button to quiet the instrument). Raise the search coil about 12 to 18 inches above the ground (dirt, concrete, asphalt, etc.), and press and release the Retune Button.

Lower the coil close to the ground. There should be little or no change in the tone of the detector. If the M-97 changes tone when the coil is lowered to the ground, there is either a metallic object near the coil that is causing the instrument to respond, or the soil conditions are such that the M-97 needs to be more precisely balanced.

Proceed with locating your targets.

Precision Tuning Method
(This method can be used for the "Normal" setting, and must be used for the "High" setting).

Select an area that is free of metal near and under the search coil. Turn on the M-97 by setting the Mode control to "Normal" and Ground control to the position "5". Raise the search coil about 12 to 18 inches above the ground (dirt, concrete, asphalt, etc.), and press and release the Retune Button. Note any change of sound. If there is no change, or only a slight change, the M-97 is balanced and ready to search.

If the sounds changes: Sound increases – Slightly decrease the Ground setting. Repeat above procedure. Sound decreases – Slightly increase the Ground setting. Repeat above procedure.Repeat until no (or a slight) change of sound occurs.

SEARCHING

It is a good idea to establish a methodic search pattern. Avoid swinging the M-97 like a golf club, swing the detector side to side keeping the search coil the same distance above the ground. Your sweep pattern should be a slow, half-circle motion. If you are searching for a small target, it is a good idea to overlap your sweeps.

When the detector's search coil starts to pass over a metal object, the sound will increase and the meter readings will increase. Depending upon the size and depth of the target, the target may appear (respond) to be larger than it should. To get a visual outline of the target, you need to reduce the sensitive of the M-97 by raising the coil and passing over the target. This can help establish the edges of the target.

Another method that will give a visual outline is to purposely detune the M-97. Move the coil away the target. Slowly bring the search coil toward the target. As the sound increases, press and release the Retune Button. Continue to move the coil toward and eventually over the target. The sound and meter readings will be more responsive as the search coil passes over the target. You may need to repeat this step more times if the target is at a shallow depth. Be aware that you can loose responsiveness of the target by over reducing the Tuning Control (sensitivity) of the M-97.

To reset the M-97 back to the balanced settings, lift the search coil off the ground, and away from any metallic objects and press and release the Retune Button. The M-97 will automatically retune to the original, balanced settings.

SPECIFICATIONS

Subject to improvement or modification without notice.

Output Frequencies of search coil ..... 4.5 kHz
Sensitivity ..... 0.20 mv RMS for full scale
Sensitivity Adjustment Range..... 12:1
Output Indication . Meter 1 milliamp, ... 0-100 linear scale
..... Speaker ..... 16-ohm impedance
..... Headset (optional) ... 8-ohm impedance
..... Audio Frequency..... 450 Hz
Power Supply +9V supplies: ..... (2) 9V batteries
Battery Life Alkaline ..... 15-25 hours
Power Consumption ..... (-9V) 13.8 mA
..... At min. sound 8 mA
..... At max. sound 50 mA
..... At Audio threshold 17.5 to 18.5 mA
Search Coil Configuration..... Double-D
Weight with 8-inch search coil ..... 3.3 lbs. (1.5kg)
11-inch search coil..... 3.9 lbs. (1.8kg)
Dimensions ..... 38 to 50 inches adjustable (96 to 127 cm)
Shipping Dimensions 6" x 13" x 35" (15.12 x 32.76 x 82.2 cm)

Fisher Research Laboratory does not warrnt suitability to specific use. Fisher Research Laboratory shall in no event be liable for any direct, incidental, consequential or indirect damages.

OPTIONAL ACCESSORIES:
Heaphones
Coil Covers
11" search coil
Hard carrying case
Vinyl carrying bag

QUALITY

Fisher detectors are renowned for their quality.
Each detector is hand crafted in the USA with pride

PERFORMANCE

Treasure Hunters worldwide rely on Fisher.
Our detectors are durable, dependable, and search deeper..

REPUTATION

Fisher produced the first patented metal detector in 1931. For over 70 years, the Fisher logo has been a mark of excellence.

2 - YEAR LIMITED WARRANTY

Fisher believes in the products we produce and backs this belief with a 2 year limited warranty, Warranty may vary outside the United States. See your dealer for details

Proof of purchase is required to make a claim under this warranty.

NOTE TO FOREIGN COUNTRY CUSTOMERS

This warranty may vary in other countries, check with your distributor for details.
Factory warranty follows the channel of distribution.
Warranty does not cover shipping costs.

SERVICE

Fisher is committed to providing you, our valued customer, with superior service. Each and every instrument is rigidly tested and carefully inspected during assembly and before shipment.
Should you have any questions or problems, contact:

FISHER RESEARCH LABORATORY

1465-H Henry Brennan,
El Paso, Texas 79936
Tel 915.225.0333 Fax 915.225.0336
www.fisherlab.com email:info@fisherlab.com

FRL#8700004000 042709